DOCUMENT RESUME

ED 286 232 CS 505 698

AUTHOR Biddle, Phil; Moore, Regina
TITLE Health Communication: Two Case Studies--Multiple Sclerosis and Epstein-Barr Virus.
PUB DATE Nov 87
NOTE 23p.; Paper presented at the Annual Meeting of the Speech Communication Association (73rd, Boston, MA, November 5-8, 1987).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Case Studies; Communication (Thought Transfer); *Communication Problems; Communication Research; *Disease Control; Diseases; *Health; Interaction; Interpersonal Communication; Medical Case Histories; Medical Evaluation; *Models; Physician Patient Relationship; Social Environment; Theories
IDENTIFIERS *Chronically Ill Persons; Epstein Barr Virus; *Health Communication; Multiple Sclerosis; Self Awareness

ABSTRACT

Communication theory can be used by medical practitioners to enhance significantly their ability to provide appropriate treatment. Complete understanding of the communication experience for an individual must include three dimensions: (1) intrapersonal communication that serves to unite the parts of the self, (2) interpersonal communication to unite the individual with other individuals, and (3) extrapersonal communication that serves to maintain a healthy union with the individual's world. This general or unified theory of communication (called the "Unified Field Theory Model") was applied to two specific medical cases--a student diagnosed as having multiple sclerosis (MS), and another person with chronic Epstein-Barr virus. MS is a disease that damages the body's nerve insulation thus impairing the sending and receiving of "messages" to and from the brain--a breakdown in intrapersonal communication--whose common symptoms are visual disturbances, lack of coordination in the arms and legs, and bladder dysfunctions. In addition, candidiasis and its treatment with tetracycline (extrapersonal dimension) appeared to be an important agent in this particular MS case, but only recently have diagnosticians considered the link. Stress (interpersonal dimension) also seemed to be a factor. The individual with chronic Epstein-Barr virus led an extremely stressful personal life (interpersonal) prior to her illness, and only after resolving her stresses and removal of a plant causing an allergic reaction (extrapersonal dimension) did her state of health improve. (Forty-three footnotes are appended.) (NKA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED286232

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

HEALTH COMMUNICATION: TWO CASE STUDIES---

MULTIPLE SCLEROSIS AND EPSTEIN-BARR VIRUS

By

Phil Biddle, Dept. of Communication Studies,
California State University, Sacramento, Ca.

Regina Moore, Dept. of Communication Studies
University of Massachusetts, Amherst, Mass.

Presented to the Commission on Health Communication,
73rd Annual Speech Communication Association
Conference, Boston, Massachusetts, 1987.

PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Regina Moore

Phil Biddle

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

BEST COPY AVAILABLE

CS505698

HEALTH COMMUNICATION: TWO CASE STUDIES---

MULTIPLE SCLEROSIS AND EPSTEIN-BARR VIRUS

In the fall semester, 1986, we opened our "Introduction to Communication Studies" class with a rather bold statement, though one we firmly believe to be true. That statement is, "Helplessness is an illusion --- a false belief, a hasty generalization or simply the misuse of terms such as 'I can't or 'I am unable'." Self-responsibility does not imply guilt nor fault for "mistaken" behavior; however, if helplessness is accepted and becomes a mind-set, the individual accepting the belief forecloses on the opportunity of discovering options and new ways of dealing with whatever the encountered obstacle is.[1] This is especially true regarding academic subjects and obstacles to physical and mental health. We emphasized the importance of optimism as a general mental outlook and mentioned some modern discoveries in physics as well as some recent applications of communication theory that sustain our own optimism.[2] Within a few weeks, one of our students and a friend of another put the helplessness statement to the test; one had been diagnosed as having Multiple Sclerosis, and the other --- Chronic Epstein-Barr Virus.

We do not profess to be medical doctors. In all of our interactions with the two individuals, we did not dispense any advice or treatment. In this paper, we are going to explain our approach and refer to much of the information we uncovered in the course of our extensive research of the medical literature and our interviews with the two individuals. Our thesis is that communication theory can be used by medical practitioners to significantly enhance their diagnostic ability in order to provide the kind

of treatment that will facilitate the patient's return to health. Indeed, Dan O'Hair said in his critique of papers presented to one of the inaugural panels on health communication at the 1986 SCA convention, that he would like to "see more work in the role of communication in the training of medical personnel."[3] In this paper, we affirm that desire, explain the development of a general or unified theory of communication and show how it can be applied to two specific medical cases --- M.S. and C.E.B.V.

The Development of the Model -

Communication scholars have been searching for what can be termed a general or unified theory of communication. For example, Ernest G. Bormann believes his "symbolic convergence theory" is a general theory of communication, as does D. Lawrence Kincaid with his "convergence" model.[4] We believe that convergence is an accurate way of explaining the purpose and outcome of interpersonal communication. However, we discovered that a single-level model, such as Bormann's or Kincaid's is inadequate for a complete explanation of a communication experience --- especially when applied to human health.

The recently-published Handbook of Communication Science, edited by Berger and Chaffee, presents a "common theoretical framework" by defining the individual's place in the levels of communication through interpersonal, organizational and macro-societal dimensions.[5] Our research indicates that such a model is incomplete because it disregards the communicative process

within the individual; it focuses mainly on the communicative relationship between individuals, and it ignores the distinct relationship between the individuals and the environment. Complete understanding of the communication experience must include all three levels or dimensions.

We have chosen the term "The Unified Field Theory" as a title for our model because of our affection for Albert Einstein who was seeking a single model to explain the bridge between the microcosm and the macrocosm.[6] Furthermore, the model we propose unites all the levels within the field of communication studies.[7]

Three scholars, --- a psychologist, Lawrence LeShan in his classic book, You Can Fight For Your Life; a physicist, David Bohm in Wholeness and the Implicate Order; and a philosopher, Martin Buber in I and Thou --- propose a three-part model and directly support our unified model of communication studies.[8]

As indicated above, we believe that a complete model of communication must include three dimensions and can best be understood as a tripartite system which, when all of the parts are functioning, produces a condition of unity, of health or wholeness or what might be considered complete well-being. LeShan, Bohm and Buber also describe tripartite systems which, with very little struggle, correspond to each other and the three-part model of communication we believe is useful for understanding communication in general and for diagnosing and helping patients regain health. While we realize

other communication theorists have probably considered an obvious triune system of communication, we know of no development of the idea.[9]

Lawrence LeShan studied cancer patients. In addition to discovering that they had a general feeling of despair or powerlessness, they also seemed to be detached from 1) the real world or their environment, 2) other persons, and 3) themselves.[10] LeShan's patients were not only detached from the real world in which they lived, they related to the material existence only as a way in which they might "reach out and communicate with others."[11]

LeShan's patients were also experiencing confusion in their second world or their world with others. They felt they must either conform or be rejected and were unable to conceive of any middle path:

> They believed that if they wished to be loved, and to be given the same acceptance that they understood other people to receive, it would be necessary for them to conform to certain demands of thought, feeling and behavior. If they did not or could not conform, it seemed to them, they would be rejected, we would be outsiders cast into cold loneliness. To be loved, they must be untrue to themselves. And this either/or view of the possibilities or relationships with others was completely inflexible.12

We suppose that most communication theorists reading this or hearing it may realize as we do, that communication, in it's purest sense and meaning, neither requires dominance nor submission to succeed. Thus, neither conformity nor rejection would be a fear or an expectation on the part of a person participating in a communicative experience. If LeShan is correct,

and we believe that he is, the cancer patients he studied failed to understand how to participate in interpersonal communication.

The third dimension that LeShan has delineated is that of the individual --- the self. His patients were detached from themselves to the extent that they had a "dim view of what they need in order to be themselves, to express themselves as human beings."[13] Much of what LeShan discovered is relevant to his cancer patients specifically. What we want to emphasize is that he acknowledged the significance of looking at the intrapersonal or intraself dimension of health, especially as it affects and is affected by factors of the other two dimensions.

Indeed, as indicated at the outset of this section, the three dimensions are related to each other, and it is only when they function together as a unity that the whole system works. If one or more of the dimensions is forgotten or not considered, the whole system suffers. David Bohm made this point very clear when he said that "true unity in the individual and between man and nature, as well as between man and man, can arise only in a form of action that does not attempt to fragment the whole of reality."[14] He proceeded to say that a "fragmentary way of thinking,...and acting...has implications [for] every aspect of human life."[15]

We are not going to dwell on current physical thought---only to say that we see three dimensions present in Bohm's thinking that are not seriously distinct from what LeShan has noted, i.e., 1) unity within the individual ---

the intrapersonal dimension, 2) unity between individuals --- the interpersonal, which may or may not be mediated, and 3) unity between the individual and nature --- the extrapersonal dimension. Other physicists, for example Fritjof Capra and Paul Davies, have expanded on the historical evolution of what is called the New Paradigm or the New Physics, and they, too, emphasize the importance of an holistic view.[16]

We do want to give some space to the thoughts of Martin Buber, for he recognized the importance of the three relational spheres: a life with nature, a life with others and what he referred to as a spiritual life.[17] We realize that his third sphere is not as clearly a self or intrapersonal dimension, but we chose Buber as a supporter of this tripartite system because we believe that spirituality can easily be subsumed under the intrapersonal dimension and is an essential relationship that must be considered for a complete picture of a unified theory of communication.

What, then, are the three dimensions from the perspective of communication theory? We have alluded to them earlier, and two are easily recognizable. The first is obvious; an individual has an intrapersonal communication system which serves to unite or keep together the parts of his/her self. The second is interpersonal communication, the purpose of which is to unite the individual with other individuals. We prefer to call this the "interhuman" dimension, thus being able to consider international, intercultural and organizational communication, etc., as sub-sets, which may or may not be mediated. And finally, the individual does not live detached

from the environment and so has an extrapersonal communication system which serves to create and maintain a healthy union with the world in which he/she lives. Thus, the Unified Field Theory of Communication is the process by which communis, convergence or unity, occurs across all three dimensions. We found the unified concept useful in understanding our two case studies, and we believe it could serve as an important system for health practitioners as they diagnose and prescribe treatment for persons who are experiencing ill health.

Application of the Model to Two Case Studies: MS and EBV -

In this portion of the paper, we consider each of the individuals as a case study in terms of the tripartite model we have developed above. We simply want to note here that the three components, while logically independent of one another, are not intended to be mutually exclusive. Indeed, as Bohm said, they represent three dimensions of the same unified theory.

The Case of Multiple Sclerosis - The Intrapersonal Dimension -

Multiple Sclerosis is a disease whereby the "message sent" by the various parts of the body is not the "message received" by the brain (and vice versa) due to interference along the channel, i.e., damage to the myelin sheath or nerve insulation. Once "demyelination takes place, scar tissue or plaque will form over the demyelinated areas. The areas with lesions can no

longer carry out their normal function of sending messages to the brain."[18] However, a sure diagnosis of MS is not an easy task because "no definitive criteria or tests yet exist."[19] Each patient's symptoms seem to take an individual course, but the common symptoms associated with MS are visual and gait disturbances, lack of coordination in the arms and legs and bladder dysfunctions. These symptoms are associated with other neurological disorders. Thus, the final diagnosis may take months or years.[20] Clearly, however, this appears to be a case of the body not being in communication with itself --- a breakdown in intrapersonal communication.

We wish to point out that this is not the first time that impaired communication has been used to explain human disease. In his article in Scientific American, March 1980, Edward Rubenstein argues that many diseases can be attributed to errors in intrapersonal communication --- in this case, errors in the sending and receiving of messages through the central nervous system.[21] Furthermore, Alcmaeon, a Greek who lived in the fifth century BC, believed that if the pathways of the nervous system were broken or clogged, communication would be interrupted, and ill health could result.[22] Alcmaeon could very well have been the first to speak of the relationship between impaired intrapersonal communication and ill health.

Regarding MS, we have not found any evidence suggesting the cause of the damage to the myelin sheath. As a consequence of our conversations with the student and the researched evidence that has been uncovered, we suspect that there is an overlooked connection between the MS, or so-called MS symptoms

and candidiasis. Candidiasis, sometimes known as a yeast infection, is caused or exacerbated by the suppression of the normal bacterial flora by antibiotic therapy.[23] The connection between MS and candidiasis is not necessarily new, and the National Multiple Sclerosis Society has released a memo cautiously supporting the research of Dr. Truss who believes that chronic yeast infection may be related to a variety of autoimmune diseases, including Multiple Sclerosis.[24] Also, Dr. Gordon Crook, author of The Yeast Connection, believes he has the evidence to suggest a connection between yeast infection and MS.[25]

The student regarded as having Multiple Sclerosis had never considered the possibility of another cause of her symptoms, and none of her medical diagnosticians, until recently, had ever considered the possibility that there could be a connection between her MS symptoms and a yeast infection -- an infection that preceded the manifestation of the MS by several years. Furthermore, the treatment she received for her earlier health problems had been antibiotics, specifically, tetracycline and other broad-spectrum drugs, which are cited by Crook as causative agents in the growth of candidiasis.[26] We realize that a connection between a yeast infection and MS must be considered on a case-by-case basis, but the following information is worthy of some consideration. More than 15,000 tetracycline prescriptions were billed to the New Mexico Medicaid Program in 1976, "making the drug one of the most frequently-prescribed antibiotics in the program."[27] The MS rates in the New Mexico county of Los Alamos were greater than those of any other listed locality except Rochester, Minnesota.[28] And in Mexico, the abuse of

antibiotics is well documented, while a recent study indicates that the frequency of MS in Mexico is on the increase.[29]

We realize that a causal connection between antibiotic abuse and MS has not been established; that conclusion awaits a laboratory study. There is enough evidence, however, to warrant a strong suspicion. The student diagnosed with MS has a history of yeast infections and other symptoms of candidiasis, for which she received tetracycline and other antibiotics and which preceded the pronouncement of Multiple Sclerosis. She recently underwent a detailed examination by a physician who confirmed vaginal and intestinal, as well as probable systemic candidiasis and has reaffirmed a yeast-free diet. While her physician does not wish to discount the probability of MS, the diagnosis of it is not absolute, given the widespread candidiasis existing in her system.

We have concluded that the first dimension of the tripartite system, when regarding Multiple Sclerosis, indicates that MS symptoms are caused by a malfunction or breakdown in communication within the central nervous system -- a breakdown in the intrapersonal dimension.

This conclusion is not new nor startling. What is important is that the cause of the malfunction could be candidiasis --- at least regarding this particular case. Candidiasis, of course, is less debilitating than MS is believed to be, and it can be successfully treated.

The Interpersonal Dimension -

Even though LeShan, Bohm and Buber each indicate that all three of the components of the model work together to produce the sense of unity, wholeness or health, interpersonal communication was never investigated by any medical person assisting this individual. If the interpersonal level is malfunctioning, containing stress or disruption, the entire system could be out of synchronization. Hans Selye, in his 1956 book, The Stress of Life,[30] and again in Stress Without Distress,[31] published in 1974, believes that it is now known that stress actually disturbs the immunological system itself. In the book High Level Wellness, the author indicates that "stress causes the body to go out of balance, the immunity system to break down and cells to malfunction and deteriorate more rapidly than normal."[32] The same connection has been discovered by Dr. James Lynch and designated in his 1985 book, The Language of the Heart.[33]

We recognize that the level of stress response varies with the individual. What is interesting in this case is that the reported episodes of sever MS symptoms were preceded by stressful events, such as the relational confusions of divorce, remarriage and, in the second marriage, an abusive relationship. Her subjective response was that "about ten years ago (prior to the onset of the MS symptoms), I went through a period of declining health, which coincided with a lot of emotional changes in my life."[34] We believe this statement indicates a lack of unity between herself and some of her closest human partners and expresses the feelings that could have

contributed to her ill health.

The Extrapersonal Dimension -

Regarding the extrapersonal factors and her illness, we want to reintroduce the notion that she may either have had the yeast infection labelled candidiasis or that the candidiasis is the cause of the neurological malfunction producing the MS symptoms.[35] External to her interpersonal relationships and her intrapersonal system are such things as environmental factors or elements which could cause, or exacerbate, an illness and/or interact with any of the factors of the other two dimensions. In her case, while on a business trip, she was exposed to mold in a hotel room and within twenty four hours, had the worst episode of what has been considered an MS attack. She returned home, was in a state of decline for about 10 days and then began to gain strength. Her medical doctor did not question her about any particular external factors; he merely treated her symptoms. What seems clear now is that the exposure to mold could have been an important consideration, if it had been a consideration at all, because mold has been classified as an activator of candidiasis.[36]

In addition to mold contemplation, her current physician is prescribing a yeast-free diet and has asked her to reduce her contact with chemicals, including hair dye --- another environmental factor suspected of contributing to candidiasis.[37] She began dying her hair around the time of her first MS symptoms, 10 years ago.

M.S. Case Summary

As a summary to this case, we want to state that had her medical practitioners been aware of the Unified Field Theory model, they could have inquired about interpersonal relationship factors and extrapersonal factors which could have provided some clues to the intrapersonal malfunction she was experiencing. It is astonishing to us that none of her earlier helpers considered the possibility that her yeast infection was related to her MS, even though her medical history is replete with instances of outbreaks of such infections.

Case Number Two: Epstein-Barr Virus

This case description will be shorter and more succinct than that of the MS case because we have already established the model and because this example is a relatively clear case of Epstein-Barr Virus, whereas the previous case was complicated by a possible diagnosis of candidiasis.

EBV is an organism that causes mononucleosis. "Close to 90 percent of the population is exposed to the EB Virus at some point --- usually early in life when it causes very mild symptoms or none at all."[38] It "remains dormant in the body and may be reactivated by a variety of stresses."[39] The typical symptoms are extreme fatigue, muscle aches, sore throat, earache, swollen glands, muscular weakness and swelling eyelids.[40]

We became aware of this person who had been diagnosed as having EBV shortly after she had been reclassified as chronic, i.e., her immune system was considered deficient.[41] She was asked to prepare a history of her illness, and three discussions with her revealed the information herein. In addition, we consulted medical librarians and researched the relevant journals.

The Intrapersonal Dimension -

AS indicated above, EBV is a virus which remains dormant and may be reactivated for a variety of reasons. The person with EBV in this case also had a rather sever case of acne and was referred by her physician to a dermatologist who prescribed erythromycin. Her acne cleared upon taking the medication, but her EBV symptoms began to resurface. She returned to her physician who concluded that the presence of the virus was at such a level that she was considered chronic. In the terms used in this paper, the drug for acne weakened her immune system, breaking or weakening the communication link and allowing the virus to be reactivated.[42]

The Interpersonal Communication Dimension -

Prior to the onset of any symptoms, the person with EBV had the following experience: her life was threatened by the son of the man with whom she was living. In fact, the son actually brandished a rifle at her and, after ripping the telephone out of the wall, chased her out of the

house, firing the gun. The incident occurred more than a year ago, and she reported that she still feels stressful when relating the story. Within two months, she went to a doctor for swollen lymph glands and a general feeling of unwellness. She continued to live with her lover, though his son has since moved elsewhere. Her doctor never asked any questions about the stress in her life and diagnosed the problem as allergies of unknown origin.

The symptoms persisted over the next few months, and she consulted another physician who diagnosed her problems as a sever ear infection. She was prescribed an antibiotic and pain killers. The ear infection disappeared; however, intense fatigue developed and persisted. She consulted another doctor who diagnosed her condition as infectious mononucleosis. She took a leave from her job, and her physical well-being improved with rest. She attempted to return to work over the next few months but once again, became fatigued and finally took an indefinite leave of absence. At no time during this period did she resolve the incident with her lover's son, nor did any of her doctors ask her about stress in her life. Whenever she attempted to discuss the son or the incident with her lover, he responded angrily, creating an additional disunity in her interpersonal life.

The Extrapersonal Dimension -

The factor dealing with the extrapersonal dimension in the EBV case is even more intriguing than any of the other factors. The individual's doctor told her to give some attention to an environmental toxin that could be

causing the allergic reaction. She suspended her use of the antibiotic, and began to feel better, though she was not completely well. She considered the possibility of a reaction to a common house plant that disturbed her whenever it was in her presence. Upon originating a discussion with her physician, she learned that plants of the genus "croton" could activate the virus. She examined a botany book and found that the plant she had in her house was from that genus! She has since given it away.

EBV Case Summary -

While concluding our research, the individual with EBV reported to us that she was feeling the best she ever had and that she believed her state of health had improved. Her doctor confirmed her belief, and he decided not to test her for the virus level until later. She has been talking with her lover about her stress regarding his son; she has corrected the main problem in her environment (the croton plant), and we believe her intrapersonal system will register a similar improvement. Interested parties can contact the authors for additional information regarding her progress.

Recapitulation and Implications -

At the outset of this paper, we noted two people who responded to the statement that helplessness is an illusion. Such has always been the case for us, and we believe that if either of us were to accept the pronouncement of an illness as incurable or a disease as chronic, then neither of us would

then utilize our full resources to seek an answer. We would believe that the bottom line regarding the disease was that the situation was hopeless. Such was the general mental state of the two students who sought assistance in the fall semester of 1986.

While listening to them, we realized that an earlier conception of communication presented in another context could be helpful to them in particular and helpful for medical practitioners in general.[43] That conception has since been labeled the Unified Field Theory because of its grounding in physics and because it accounts for all of the variables necessary for a general theory of communication. Other scholars have proposed general theories that we have concluded are inadequate, and we have noted a few such persons --- Bormann, Kincaid, and Berger and Chaffee.

We believe that a unified theory which contains three dimensions is best understood in communication theory terms as intrapersonal or intraself, interhuman and extrahuman. The intraself has a history that stretches back to the fifth century BC, though 1986 was the inaugural year for intrapersonal communication to become an active interest group of SCA. We consider it a vital application of communication theory because it explains a whole host of malfunctions within a human being; we have only touched on a malfunction of the central nervous system and its resultant disturbances in the immune system. The interhuman dimension includes subsets of communication typically considered distinct: interpersonal, organizational, societal, intercultural, etc. And finally, there is the dimension of extrapersonal communication ---

"extra" meaning beyond the individual and his/her interhuman relationships. Such a classification includes the environment in which the individual lives and the resultant effects of what communication theorists might call "noise." In the cases of MS and EBV, the noise is a toxin that interacts with the other two systems creating or contributing to a malfunction in the overall unity of the system.

As a final note, we want to return to the idea presented by Bohm that the system works best as a unified system --- all parts in communication with themselves and with each other. Should a malfunction or break occur within one or more of the parts, the entire system will not function at the optimum level. Such is the case with human health. We believe this tripartite system should be given careful consideration by practitioners in the field of medicine because their diagnostic and treatment procedures could be greatly enhanced. Indeed, we would like to see every doctor have an understanding of the Unified Field Theory of Communication or have a communication specialist in every medical clinic.

NOTES

[1] Martin E.P. Seligman, Helplessness: On Depression, Development and Death (San Francisco: W.H. Freeman, 1975).

[2] Edward Rubenstein, "Disease Caused by Impaired Communication Among Cells," Scientific American 242 (1982 Mar): 102-121.

[3] Dan O'Hair, "Perspectives on Health Communication Research: Response to Competitive Papers on the Influences of Symbols, Metaphors and Message Patterns on Health Communication," Speech Communication Association Convention, Chicago, November 1986.

[4] Ernest G. Bormann, "Communication and Group Decision Making", Symbolic Convergence Theory and Communication in Group Decision Making, ed by Randy Y. Hirokawa and Marshall Scott Poole (Beverly Hills: Sage, 1986); D. Lawrence Kincaid, "The Convergence Model of Communication," paper #18, East-West Communication Institute, Honolulu, 1979.

[5] Berger and Chaffee, Handbook of Communication Science (Beverly Hills: Sage Publications, 1987).

[6] Lincoln Barnes, The Universe and Dr. Einstein (New York: Bantam Books, 1949).

[7] Phil Biddle, "Communication: A New Paradigm," Guest Lecturer, Northern Illinois University, 1979; "The Paradigm Change," Portland State University, 1983; Regina Moore, "Atonement," Seminar Paper, Calif. State Univ., Sacramento, 1986.

[8] Lawrence LeShan, You Can Fight For Your Life: Emotional Factors in the Causation of Cancer (New York: Jove/HBJ, 1977) 71; David Bohm, Wholeness and the Implicate Order (London: Ark paperbacks, 1983) 16; Martin Buber, I and Thou (New York: Charles Scribner's Sons, 1958) 6.

[9] If any full development of a three-part communication model is known, the authors are interested in becoming informed.

[10] LeShan 70-77.

[11] LeShan 72.

[12] LeShan 72.

[13] LeShan 73.

[14] Bohm 16.

[15] Ibid.

[16] Fritjof Capra, The Turning Point (New York: Simon and Schuster, 1982); Paul Davies, God and the New Physics (New York: Simon and Schuster, 1983).

[17] Buber 6.

[18] "MS at Work in the Central Nervous System," Nursing 15.9 (1985): 60.

[19] Ibid.

[20] Ibid.

[21] Rubenstein 102-121.

[22] Pan S. Codellas, M.D., Alcmaeon of Croton (Codellas, 1932) 29.

[23] Paul Singleton and Diane Sainsbury, Dictionary of Microbiology (New York: John Wiley and Sons, 1978).

[24] Robert J. Slater, M.D., memo #120-85 to the Multiple Sclerosis Society, 28 February 1985, "Article in Omni Magazine Concerning Yeast Infections and Chronic Disease."

[25] William G. Crook, M.D., The Yeast Connection: A Medical Breakthrough (New York: Vintage Books, 1983)

[26] Crook 194, 216, 315.

[27] Thomas S. McConnell, M.D.; Alice H. Cushing, M.D.; Arthur D. Bankhurst, M.D.; James L. Healy, M.D.; Patricia A. McIlvenna, M.A. and Betty J. Skipper, Ph.D.; "Physician Behavior Modification Using Claims Data: Tetracycline for Upper Respiratory Infection," Western Journal of Medicine 127 (1982): 448-450.

[28] Richard E. Hoffman, M.D.; Matthew M. Zack, M.D.; Larry E. Davis, M.D. and Cecil M. Burchfiel, M.P.H.; "Increased Incidence and Prevalence of Multiple Sclerosis in Los Alamos County, New Mexico," Neurology 32 (1981): 1489-1492.

[29] C. Gorodezky, R. Najera, b.E. Rangel, L.E. Castro, J. Flores, G. Velasquez, J. Granados, J. Sotelo, "Immunogenic Profile of Multiple Sclerosis in Mexicans," Human Immunology 16 (1986): 364-374; Lars L. Gustafsson and Katarina Wide, "Marketing of Obsolete Antibiotics in Central America," The Lancet 3 January 1981: 15.

[30] Hans Selye, The Stress of Life (New York: McGraw Hill, 1956).

[31] Hans Selye, Stress Without Distress (Philadelphia: J.P. Lippincott,

1974).

[32] Donald B. Ardele, High Level Wellness: An Alternative to Doctors, Drugs and Diseases (Emmaus, Pennsylvania: Rodale Press, 1977), 135.

[33] Dr. James Lynch, Language of the Heart (New York: Basic Book Publishing, 1985).

[34] Medical case history of anonymous student diagnosed as having multiple sclerosis, November 1986.

[35] Crook 212.

[36] Crook 223, 270.

[37] Crook 223.

[38] Mary Hager, Daniel Shapiro, Mariana Gosnell, Jean Seligmann and Pamela Abramson, "Malaise of the 80's," Newsweek 27 October 1986: 105-106.

[39] Ibid.

[40] Ibid.; Louis S. Kucera, Ph.D. and Quentin N. Myrvik, Ph.D., Fundamentals of Medical Virology (Philadelphia: Lea and Febiger, 1985), 81-83.

[41] Medical case history of anonymous student diagnosed as having chronic Epstein-Barr virus, December 1986; Phillip W. DeVoe, Rebecca H. Buckley, L. Reed Shirley, Charles P. Darby, Frances E. Ward, George H. Mickey, Nancy Raab-Traub and G.R. Vandenbark, "Successful Immune Reconstitution in Severe Combined Immunodeficiency Despite Epstein-Barr Virus and Cytomegalovirus Infections," Clinical Immunology and Immunopathology 34 (1985): 48-59.

[42] Crook 330, 331.

[43] See footnote #7.